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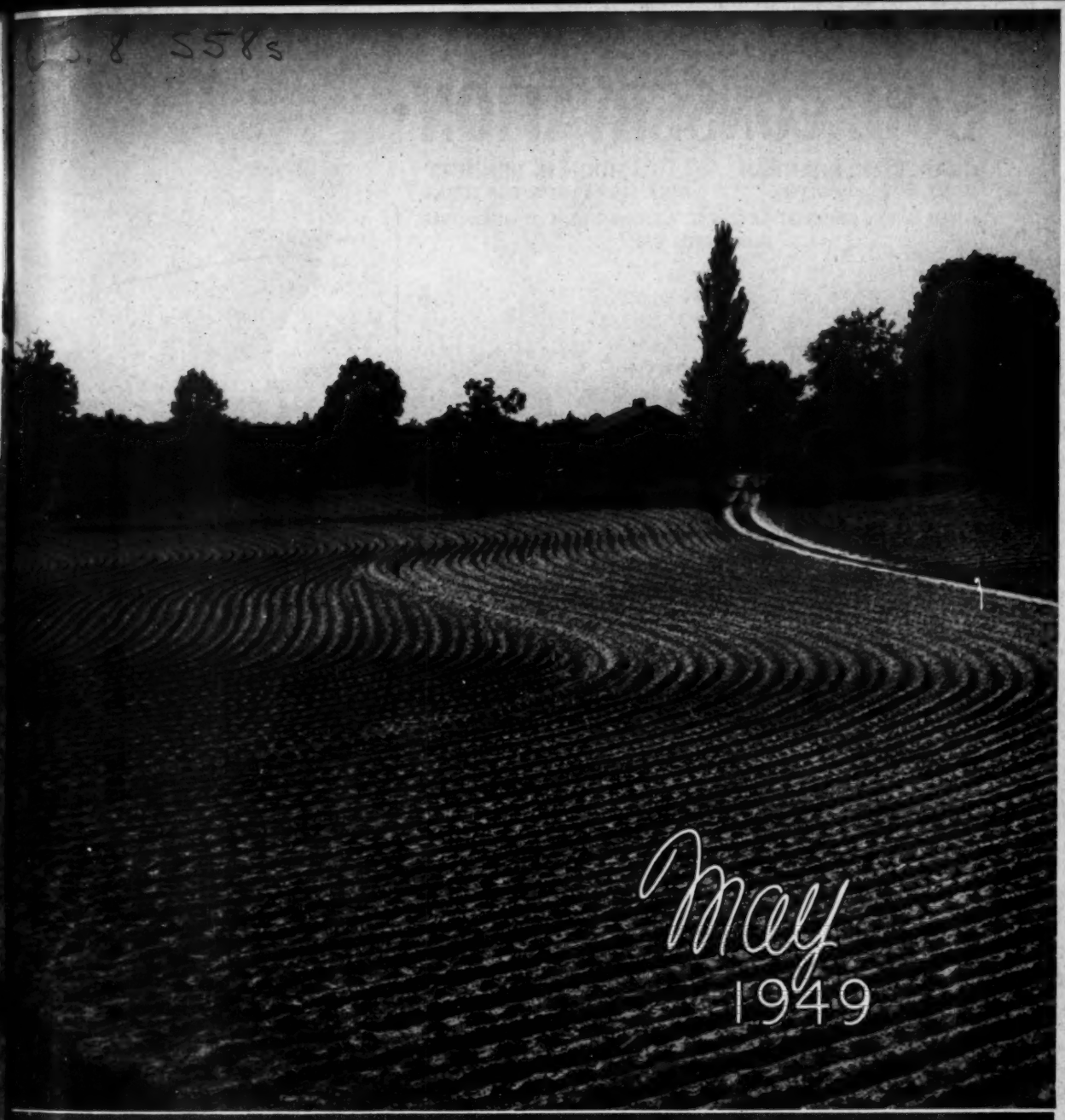

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WASHINGTON, D. C.

☆ THIS MONTH ☆

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WELLINGTON BRINK
Editor

Art Work by
W. HOWARD MARTIN

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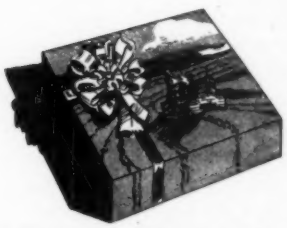

GIVES FARM TO STATE.—A modern soil conservation farm will be developed on 275 acres given to the State of Maryland by Miss Emma T. Strider, daughter of the late Luke C. Strider who was a municipal court judge in the District of Columbia. The farm is located at Cloppers on the Seneca River in Montgomery County.

Administration will be through the State Game and Inland Fish Commission, of which Malcolm King is the field superintendent in the Montgomery area. He says 35 acres will be set aside for use of the Rockville Chapter, Izaak Walton League, and the remainder will be developed "as a model farm displaying all conservation techniques, with emphasis on wildlife conservation." In Maryland there is excellent cooperation between the soil conservation districts, SCS technicians, and the Commission.

In presenting the farm to the State, Miss Strider said: "I believe we should all do what we can to advance conservation teachings and keep this country from becoming poor through physical deterioration of the land."

FRONT COVER.—Row grade lay-out of tobacco field on farm of M. P. Ewards, Sr., Kittrell, N. C. Ewards had read about this conservation method, had seen it at research station demonstrations, and then came home and tried it out in his own field. Photo by Hermann Postlethwaite.

All orders go to the Superintendent of Documents, Government Printing Office, Washington 25, D. C.

Dave Rice (left), SCS employee at Chadron, Nebr., checks map with pilot of hay-lift plane prior to take-off on distributing flight. Dave went along on such flights to spot ranch and its livestock before dropping feed.

OPERATION SNOW-BOUND—By R. W. ROGERS

WHEN the snow blizzards hit the Midwest with all their fury in the winter of 1948–49, the Soil Conservation Service was there. Stranded communities, marooned families, and perishing livestock were in urgent need of help. Immediately the local knowledge of Service employees, together with aerial maps, trucks, tractors, and bulldozers, was provided. The offices of many soil conservation districts were used as emergency headquarters for relief activities.

Now that the sun has shone for a few weeks, and as the melting ice and snow moves downstream, a part of the story can be told. Other parts would be the human suffering, heroic deeds of mercy, and extreme losses of cattle, topsoil, and water that resulted from the snowstorms.

Early in November 1948 a blanket of snow covered the Black Hills of South Dakota. On November 17, McCook, Nebr., was snowed in. The following day high winds blew the storm (and drifting tumbling weed) as far east as Omaha. Parts of the Great Plains, including Kansas, Ne-

NOTE.—The author is chief, records and reports division, Soil Conservation Service, Washington, D. C.

braska, Colorado, Wyoming, Montana, North and South Dakota were covered with ice and snow.

Cattle were caught in the fields, and sheep on the ranges. Cars slipped off the road and travelers were stranded. Train schedules were interrupted as telephone lines and poles went down and railroad switches stuck. Old-time residents were caught with low supplies of food and fuel. They called it a "whizzer," a "northwester," a forerunner of things to come.

During the winter, zero temperatures were recorded in Houston, Tex. It snowed in Tucson, Ariz., and in southern California. The Columbia River basin faced another emergency following the floods of 1948.

On January 2, 3, and 4 snowdrifts up to 8 feet high were piled in the streets of Douglas, Wyo. Don Davis, district conservationist, took hold of things and helped to get an emergency relief set-up going. Davis reports: "We drew up an announcement, which was broadcast over the Casper station, asking that all calls for relief be funneled through an emergency relief committee. We contacted the National Guard, truckers, and heavy equipment owners in the area and secured an agreement to pool their equipment. The county commissioners set up the emergency committee. Later the Red Cross and the Army Engineers were added."

Davis reports: "The first day we plowed out around the two feed stores and three storage houses in Douglas to open up stored feed to ranchers. We then went out the Gillette Highway for 3 miles and opened up some drifts that were blocking a convoy trying to get out that road." Davis made three distress runs into the country north of Bill to contact people needing food and medicine.

"Sims and Schlichting operated the RD–4 dozer-tractor, loaned by the Soil Conservation Service, for 80 hours when temperatures stayed below zero. This machine opened about 40 miles of road at this time and got feed to approximately 2,400 head of cattle."

Working day and night this crew of Davis, Sims, and Schlichting stayed on the job. Using additional equipment they opened up other roads, lanes, and haystacks along the way to snow-bound ranches. Dead cattle were found around each stack. Others were badly in need of water since watering holes were frozen to the bottom. Many of the cattle were on the verge of starvation and later died.

Then came the winds up to 70 miles an hour which blew the snow off the ridges and chewed up the soil. Whole bands of sheep, numbering in the thousands, blew under. About half of them were later dug out. Four antelope that had been blown under were found still alive. Others were found dead.

At Casper, Wyo., Robert F. Corbet, SCS work unit conservationist, acted as spotter during the hay-lift operations, making three missions a day. Use of SCS aerial photos and knowledge of the country made it possible to pick out ownerships and stranded cattle from the air for dropping feed.

Soil Conservation Service maps in nearly all areas were made available for spotting ranches, locating roads, and assisting in the relief program. SCS people rode in hay-lift planes and assisted in spotting ranches and livestock herds. They rode

Pheasants got a lot of protection from fence rows and tree plantings and may have fared better than at first supposed. The SCS man who made this picture reports that 12 to 15 pheasants flew from this spot before he could get his camera ready. In and around Chadron, Whitney, and Gordon, Nebr., he saw 175 pheasants and 35 to 40 grouse flushed from bushy and weedy spots along fence lines. At least 50 pheasants flew from a shelterbelt near Gordon, and farmstead windbreaks sheltered some birds.

Sheep at haystack after bulldozer opened road leading to it. They had been without hay several days.

weasels as pilots and assisted in locating farmers and ranchers in need. All such facilities were made available to the Fifth Army during their operations.

Dave Rice, SCS employee at Chadron, Nebr., rode in planes to guide pilots to snow-bound ranches and their livestock. He also provided maps of single farms to show other pilots where to drop their loads of feed.

On January 27, as reported by the *Bismarck Tribune*, two locomotives and a freight train were rescued by a tractor and bulldozer owned by the Renville County (N. Dak.) Soil Conservation District when they stalled in snow drifts between Mohall and Sherwood. After the bulldozer had broken loose, one car at a time, it was found that the engines were dangerously low on water after their long fight at 26° below zero. Technicians of the Soil Conservation Service had supervised construction of a farm irrigation reservoir located nearby and close to the tracks. Some of the impounded water was used to raise the water level in the engines. Soon steam was up and the locomotives were on the move.

Leonard B. Woods, county clerk at Ord, Nebr., wrote Jack Laggee, assistant State conservationist, Lincoln, Nebr., "I wish to express to you, on behalf of the board of supervisors and the people of Valley County, their sincere thanks for the work of the personnel of the Soil Conservation Service in this county during the emergency created by the storms of this winter." SCS employees, Wallace Doe, Louis E. "Sac" Walford, Leslie Nash, and John Vanberg, were mentioned for their aid to distressed farmers. C. C. Dale, county extension agent, reports that these men "have gone far beyond the call of duty in helping distressed people of Valley County."

This is how the snow piled in around farm buildings and made it impossible for the rancher to move feed or livestock; Frank Arner farm near Crawford, Nebr.

In addition to these examples of missions of mercy, there are hundreds of others within the snow-clad region.

A. E. McClymonds, regional conservator at Lincoln, Nebr., reports: "There are about 100 soil conservation districts in the Great Plains regions within the emergency blizzard area. Some 250 Soil Conservation Service employees were alerted and assisted the Army and other emergency agencies on relief activities. About 200 SCS trucks were available in this area for such work. All heavy equipment owned by the Service, and on loan to soil conservation districts within the area, was turned over for opening highways and farm roads and making trails to hay and livestock."

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Several reports state that the greatest loss has not been in actual dead livestock but in condition of the stock. Cattle are in very poor condition and calving time is approaching. Cattle are starting to drop their calves prematurely already and sheep are doing the same. With heavy spring storms, the loss is likely to be much greater than at the present time.

Colorado reports that about the northern third of the State was affected by the blizzard and drifting snow. Utah reports that practically all of the State was involved, particularly the western third. In both States, SCS personnel and equipment were made available.

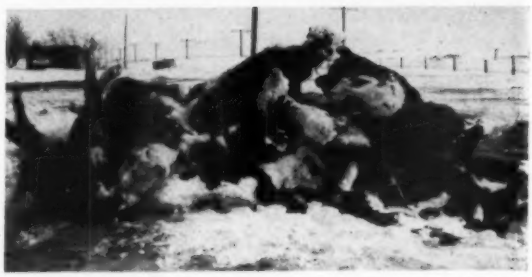
Some other cases of service rendered beyond the call of duty are as follows:

Haley Houghton, work unit conservationist at Ely, Nev., received a letter of commendation from Lt. Col. Martin W. Sullivan, Sixth Army Headquarters. It said, in part; "I wish to thank you for the assistance given us in accomplishment of our mission in Operation Snow. Upon arrival of the advance party you assumed the initiative in obtaining and preparing facilities for the billeting of troops. You continued to give freely of your time day and night to make this operation a success."

In the Tri-County Soil Conservation District in South Dakota, two SCS pick-up trucks followed the tractors. They were loaded with fuel oil, gasoline, and groceries to give immediate relief as soon as trails were opened to ranches. It was found that in many cases the rancher had used all the gasoline out of his automobile, truck, and tractor to keep his water pump going and had none to drive to town after the road was opened.

J. R. Stephens, work unit conservationist of the Cloud's Peak Soil Conservation District near Sheridan, Wyo., carried a box of food cross country three-fourths of a mile to a snow-bound farmer. He also helped break trail to a stranded farmer's house and helped free a number of farmers' cars from drifts.

Most supervisors in the stricken area were snowbound along with the other farmers and ranchers, but those who were able to assist did their best. One, Charles E. Wilson of the Pennington Soil Conservation District in South Dakota, has a light plane. Even though he lives more than 50 miles from Rapid City, he put in many hours flying groceries, medicine, and other necessities to



Purebred Hereford yearling calves frozen in the February blizzard in Dawes County, Nebr.

Sugarloaf Soil Conservation District equipment breaking through drift on farm near Crawford, Nebr.

residents throughout the area. He also brought a woman who had broken her arm to a doctor, and hauled repair parts to a tractor used to open roads.

Chadron, Nebr., was near the center of the snow blitz. Dave Rice and other members of the SCS staff, as well as SCS workers at Mirage Flats, were in the middle of Operation Snow-Bound. Rice reports that various organizations really "pitched in" and worked together.

Food packed in boxes and fuel oil in 5-gallon aviation cans were dropped by local pilots using small planes. Locally made toboggan sleds capable of carrying 1,000 pounds of food and supplies were tied behind weasels. These crews and local guides saved the lives of many people in the storm area. One old man who lived alone shot his sheep dog in order to make his food last longer.

Rice reports that "only a small percentage of the pheasants have survived. Wild deer yarded-up in the pines during the storms. Feed was scarce, losses undetermined."

John Mader, conservation aid at Crawford, Nebr., spent nearly 3 days in 10° below zero getting a tractor started. The situation was so serious that he then operated the tractor and bulldozer continuously for 36 hours without any relief help to liberate isolated ranchers and livestock.

George D. Clyde, chief, SCS Division of Irrigation Research, reports: "Unprecedented winter storms have resulted in very heavy mountain snow cover in most parts of the West. This is giving great public concern to later possibility of damaging floods from snow-melt."

R. A. Work advises that in his judgment "damaging snow floods are possible in many basins and particularly in Oregon, Washington, Idaho, and Montana. The main condition for floods, namely, heavy accumulation of mountain snow, now exist."

The Corps of Army Engineers is deeply concerned about the unusually deep snow cover on headwaters of the Willamette River in Oregon. They have requested the Service to conduct snow surveys every 2 weeks on seven key snow courses in this basin until the flood hazard has been realized or dissipated. The Army agrees, in this case of many requests, to meet the field cost of the emergency surveys.

"Dean" Clyde also reports that "flood hazards are in the making in the Columbia Basin, Missouri River, Colorado River, Rio Grande, and other Great Basin streams, because of clogged channels, encroachment of users on the flood plain, and the unusually heavy snow." He provided a table showing comparison of snow cover with that of previous years.

Comparison of snow cover with that of previous years

Tributary basins	Jan. 1, 1949, water content		
	Percent of 1948	Percent of 1947	Percent of average
Upper Clark Fork River, Montana	78	73	134
Flathead River, Montana	206	66	143
Pend Orielle River, Idaho	286	210	240
Wenatchee River, Washington	226	159	221
Yakima River, Washington	848	297	317
Upper Snake River, Wyoming	187	138	163
Big Wood River, Idaho	392	96	209
Boise River, Idaho	165	114	153
Payette River, Idaho	170	118	155
Malheur River, Oregon	178	179	207
Salmon River, Idaho	199	132	172
Deschutes River, Oregon	287	275	228
Willamette River, Oregon	252	317	357
Logan River, Utah	214	148	187
American Fork River, Utah	153	65	186
Strawberry Reservoir, Utah	204	163	195

With nearly double the usual amount of water stored as snow on the watersheds there must be increased runoff this spring.

The possibility of high waters and flooding conditions this spring reminds us of the Ohio-Mississippi floods of 1937. The Soil Conservation Service was there, too, helping the Army engineers and others in raising levees, building higher sea walls and removing families from floating housetops. For example:

At Hickman, Ky., the Service was called on to help raise the sea wall about 4 feet to save the town. CCC enrollees, SCS trucks, lumber and other materials were brought in to sandbag the concrete wall and hold the river back. At Bessie Bend on the mighty Mississippi, SCS workers labored in mud and water to prevent the rising waters from destroying the high earth levees and cutting a new channel. Day and night the work went on until the "big bend" was safe for continued navigation. And when Reelfoot Lake in Tennessee was about to go down the river, a fleet of SCS trucks with bumpers touching formed an endless convoy to sandbag the road and bridge above high waters.

Many other examples of intensive work by the Soil Conservation Service during the 1937 flood and other emergencies could be mentioned. The more recent one was along the Columbia River in the spring of 1948.

Some may ask: What does all the snow, ice, and floods have to do with soil conservation?

Surely no one can do anything about the weather, but larger quantities of water can be stored on the upper watersheds where it falls. By soil conservation treatment of each acre according to its needs, the soil itself becomes the greatest reservoir.

Terraces, contour farming, and stubble mulching reduce the rate of runoff and soak more water into the soil. Farm ponds and detention reservoirs in large numbers can hold back much of the runoff as storage for later use on the farm. Trees and grass on steep lands and legumes in crop rotations form a protective layer as a sponge to soak up much of the water.

So when the ice and snow have melted and the high waters (or floods) have passed on to sea, the Soil Conservation Service will still be at work with its regular job, that of helping more farmers and more ranchers to get better land use and to apply the needed practices to their lands.

districts need grass seed NOW!

SEE FOR YOURSELF

Left, top.—A good deal of grass seed is needed for planting on earthen dams. This one, in Nebraska, is well protected. Fenced out, it is a good wildlife area.

Left, bottom.—This waterway was once a gully. It was shaped with heavy equipment and then seeded to a grass-legume mixture.

Right, top.—Wind-eroded abandoned farmland in North Dakota.

Right, next to top.—Same land after grass had become established. Now devoted to pasture or hay production.

Right, next to bottom.—Ree wheatgrass seed plot on Frank Feser farm near Claremont, S. Dak. Feser is president of the South Dakota Association of Soil Conservation District Supervisors.

Right, bottom.—This roadside was shaped, then seeded to bromegrass. It prevents water from cutting a ditch such as those common along the Nation's roads. It also keeps out weed infestation. Farmers help maintenance by cutting for hay. Millions of pounds of grass seed are needed for roadside erosion control.

By A. D. STOESZ

MANY FARMERS in the United States are worried over the possibilities of surpluses, now that Europe and Asia are showing signs of recovery.

The soil conservationist, however, has another worry. He welcomes some easing up of the pressure on American land. This will permit the farmer to return some land to grass permanently or for long periods. It will also permit him to use grass in his crop rotation so that his good land can be given the periodic rests it needs and tend to restore the organic content.

But where to get grass seed? Surveys by the Soil Conservation Service reveal that today there are some 150 million acres of land in the United States that should be seeded to grass. This will require about 2½ billion pounds of seed.

Even now, in the Great Plains region alone, there is a shortage of grass seed. Farmers and ranchers in soil conservation districts in this area are planting more than half a million acres of grass a year, mostly as part of the crop rotation. And the evidence is that much more would be seeded if there were enough of the right kinds of grass seed available.

Much of the need is for reseeding native pastures and range and for grassing range land that has been cleared of sagebrush and other brushy plants. A lot is needed of species that will furnish early spring and late fall grazing and fit into the farm or ranch production plan. Some is needed to take the place of native grasses where erosion has changed the environment enough that native grasses won't grow there now. And some is needed for special erosion-control jobs, such as in waterways, to protect irrigation and drainage ditch banks, and control dune sand.

There is not enough seed of any of the grasses under production—and seed production hasn't yet started on some species. Farmers and ranchers must be encouraged to grow the necessary adapted grass seed.

Getting the seed of any grass into production is at best a relatively long process. It involves extensive testing and the development of a seed source. In this, the forage crops division of the Bureau of Plant Industry, Soils and Agricultural Engineering, the State experiment stations, the Soil Conservation Service nurseries, and the soil conservation districts are cooperating, each in its own field.

The research agencies are constantly on the lookout for plants with better forage qualities, higher yields, resistance to disease, good seed and seedling characteristics. Sometimes they are planted new to this country; at other times they are improved strains of presently common grasses. The plants are tested under controlled conditions in greenhouse, laboratory, or field and are the subject of detailed readings and accurate evaluations.

The observational nurserymen of the Soil Conservation Service aid in evaluating grasses for their ability to do specific conservation jobs. Among these are the ability to grow on less fertile, eroded soils; to thrive on sandy, saline, or seepy sites; and to give adequate protection quickly to newly seeded waterways.

In the initial testing, the facilities of all three agencies are used. But for widespread testing, the State experiment substations and soil conservation districts come into the picture, for it is in the field that the worth of a grass is finally proved. Once proved, seed is released by the State experiment stations through crop improvement associations.

Progress by research agencies and SCS nurseries in searching out, testing, and producing the initial seed sources for new grasses has been good. Three examples in the northern Great Plains will suffice. Mandan wild-rye was developed from a selection of superior plants of Canada wild-rye on the upland near Mandan, N. Dak. Green Stipa grass was selected in the same way. Intermediate wheatgrass is an import that got its start at the South Dakota experiment station when W. W. Austin of the Soil Conservation Service brought in a hatful of seed.

But progress in encouraging farmers and ranchers to produce the seed on a large scale is not satisfactory. Thus far it has been impossible to assign to the field the number of scientists needed to give farmers enough technical help in understanding the new grasses, and in planting and growing them and harvesting the seed.

The story surrounding crested wheatgrass is a good example of what happens when seed production of a grass is allowed to grow like Topsy. Crested wheatgrass had been introduced into the United States just before 1900 by Dr. N. E. Hansen. Most of the experimentation with it was

NOTE.—The author is chief, regional nurseries division, Soil Conservation Service, Lincoln, Nebr.

Farm equipment may be used to harvest most grass seed. Sometimes adjustments are needed. This combine is used to harvest buffalo grass seed. It has been altered by adding brushes to the reel and lowering the cutter bar.

done by J. T. Sarvis at the northern Great Plains station at Mandan.

It was not until 1929—30 years later—that crested wheatgrass was listed in a commercial seed catalog; this in spite of the fact that its life history had been worked out in detail by 1915, and that Sarvis at Mandan and Leroy Moomaw at Dickinson, N. Dak., demonstrated the practicability of growing the seed economically and in large quantity. Farmers and ranchers had been denied the use of this grass for many years.

That this process can be speeded up materially has already been shown in the case of intermediate wheatgrass. It is only 10 years since Austin brought in his first hatful of seed to the South Dakota experiment station. It was seeded in rows and the first few seed crops were used for plot testing and increase.

Once the value of this species was shown to the farmers and ranchers, the SCS nurseries increased their intermediate wheatgrass acreage. Between 1943 and 1947 they produced 21,673 pounds of seed which was distributed to soil conservation districts and crop improvement associations. Much was furnished farmers for seed production to supply local needs for conservation and general farm use.

It is estimated that growers produced a million pounds of intermediate wheatgrass seed in 1948. Thus, with soil conservation district supervisors, county agents, Soil Conservation Service technicians, and research workers pulling together, the foundation of a good seed supply for this grass has been established in a decade.

Spreading of the knowledge of how to produce seed was an important factor in getting this species into so wide use in so short a time. It was the combined effects of the county agent's knowledge of the farmers to be selected for the seeding of the first small lots received, the district supervisors' help in encouraging farmers to produce seed, and the aid to farmers of SCS technicians and county agents in setting drills, caring for the seeding, and harvesting the crop.

With further teamwork, the production of other grasses can be speeded up as much or even more.

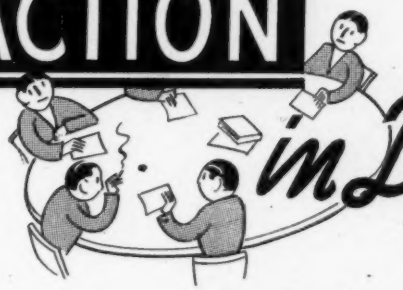
Here's what goes into the job of producing seed. First, it takes good land to produce quality seed. It takes harvesting and cleaning equipment. And, above all, it takes folks with an interest in seed production and a knack for it. The county agent and SCS technicians are the key people in getting seed production started right. They know the farmers, their equipment, their land, and their abilities. And they must help the man selected through his first year's effort at producing the seed.

There can't be mistakes. The small sack of prize seed that is received is a rare item—some thing that can't be bought; this sack, and a few others like it sent to other communities, is the entire supply. It must be put in the hands of someone who will respect it for what it is and do well with it.

The grass seeding job ahead is huge, as already has been pointed out. There isn't enough seed to meet demands even now; what will the situation be when farmers and ranchers decide to turn to grass seeding seriously? And there still is little production of the seed of some new grasses that are needed for special conservation jobs.

Since it takes time to get grass-seed production going, district supervisors, SCS technicians, county agents, and research workers need to get busy on the job of encouraging the production of the right kinds of grass seed. It's a challenge.

GROUP ACTION in Districts



By PAUL H. WALSER

Soil conservation districts organized under provisions of State laws enacted in each of the 48 States have given the American people their first definite assurance that the deterioration and destruction of our land by erosion is going to be fought and eventually checked. Until the districts came into being there had been no thorough study of the local aspects of the erosion problem, no definite provision for necessary local leadership, and no medium for concerted progressive action toward conservation. The greatest progress in conservation that has ever been made has taken place in the years since 1937 when the first soil conservation district was organized. Up to the present time, approximately 2,000 districts have been organized in the United States. To be sure, not all of the land of the United States is in soil conservation districts and only a fraction of the land in soil conservation districts has received conservation treatment, but a sound beginning has been made and there has been sufficient progress to assure that the district movement is well-founded and that its objectives can be attained.

The oldest district has been in operation only 10 years. Dozens of others are just now getting under way. Enough experience has accrued, however, to enable district supervisors and their coworkers to take stock of the situation, evaluating strong points, and seeking out organizational or operational phases which should be strengthened and further developed in order that the districts may function most efficiently.

Numerous basic strong points have been demonstrated by the districts. One of these fundamentally important points is the placement of responsibility for the district conservation program in the hands of local people themselves, subject to no other agency, but only to the people of the district and the State legislature which enacted their enabling law. In most States, boards of supervisors or directors elected by their neighbors constitute the governing bodies. These individuals have responsibility for formulating and directing the conservation programs of the districts. This placement of local leadership is in keeping with the best American traditions of democracy.

A second source of strength lies in the fact that in soil conservation districts, as in no other widespread organization, there has been thorough study of the problems which have contributed to present land conditions and, based on those studies, careful planning of an attack. In other words, there has been study both of cause and of effect, with the conclusion that the land is suffering from many contributory influences and not merely happenstance. As an example of the findings of such studies, the farmers and ranchers in one soil conservation district considered that their major, and possibly their sole problem, was drainage until they undertook the studies leading to the building of their district program and work plan. When they completed these studies, they listed almost 100 contributory problems, a number of which would have to be solved before they could arrive at their primary objective, that of improving the use of the land by drainage. There is a greater and more accurate knowledge of our land problems today than ever before because of the studies which have been made in soil conservation districts. Since knowledge must precede sound planning, and sound planning must precede operations in the field, it becomes very apparent that soil conservation districts have made a highly valuable contribution to the Nation through preparing to meet their conservation problems.

A third point of strength lies in the fact that districts recognize and use the fundamental principle of cooperation. They work together to solve

Note.—The author is state conservationist, Soil Conservation Service, Temple, Tex.

Group action speeds results on these small, centuries-old Spanish-American farms in northern New Mexico.

common problems that are too formidable for any individual to tackle single-handed. Districts recognize the obvious fact that erosion, whether from wind or water, does not stop at fence lines or even county or State lines, and that if it is to be controlled economically, quickly, and permanently, people must work together. As yet no one can estimate the ultimate value to agriculture of the lessons on cooperation learned in soil conservation districts.

The most accurate information available indicates that two extremely important and conflicting trends are operating in this country. One is the increase of pressure on the land brought about by the food and fiber demands of a growing population, the greater need for agricultural products in manufacturing and industry, and the findings of science that products of agriculture can be substituted for certain metals and other materials once plentiful but now becoming scarce. The second trend is the decreasing supply of land to fulfill the needs of man. With the amount of land in the United States now only a little more than adequate to meet our needs, we continue to lose our productive soils at the rate of about half a million acres per year. In view of these trends, it is clear that we have left only a few years of grace before we, in common with other peoples, will feel the pinch. Our only salvation is to conserve our vital resources of soil and water. As rapidly and as effectively as conservation work has been and is being done in soil conservation districts, it must be done yet more rapidly and yet more effectively.

Let us look at some of the facts in one-two-three order.

First, soil conservation is not merely a desirable objective of the distant future—it is an immediate and crying necessity. The consequences of failure to conserve soil and water in the past should leave no doubt in our minds about the vital urgency of using land only according to its capabilities and treating it according to its needs henceforth. It must be recognized that improvements in machinery will give us more efficient implements, that plant breeding will continue to give us better producing strains, and that other sciences will make their contributions to increasing yields. Yet, the fact must not be overlooked that these technical advances can be only temporary unless the basic soil and water is conserved. This is simply self-preservation.

Second, even in their short lifetime soil conservation districts have demonstrated their practicability as organizations for securing the cooperative action necessary to accomplish soil and water conservation. With little or no precedent on which

to base their actions, district supervisors have already solved many administrative problems and demonstrated their ability to provide adequate local leadership for carrying out their great undertaking. It is only reasonable to expect them to make further and greater progress and that their districts should consolidate as permanent working parts of smoothly operating national machinery for conservation. If soil conservation districts are to endure, then also is the responsibility of soil conservation district supervisors through all the steps toward the conservation goal.

A third fact is that there are four steps in the job, all of which must be taken progressively. The first of these steps is that of making the essential surveys or inventories, and their use in conservation planning by farmer or rancher and assisting technician. A perfect conservation plan, however, is valueless until it is applied on the land. After it is applied, its value is minimized unless it is adequately maintained year after year. From the improvements in conservation techniques which have been developed within the past decade we are confident that improvements will continue to be developed. Therefore, if we are to make sound over-all plans, we must think not only in terms of planning, application, and maintenance but also in reference to the widespread adoption and application of improvements which will come later. If all of these steps are to be achieved and conservation is to become permanent and progressive, a better and more rapid means must be devised than is now available.

Fourth, some soil conservation districts now have up into the thousands of cooperative agreements already entered into, yet not all of the land units of the district have been reached even with surveys and planning. The load of responsibility for giving assistance continues to increase without a commensurate increase in the facilities for extending such assistance. To put it another way, the number of district supervisors has not increased per district and likewise the number of agency representatives helping the district has in many instances decreased rather than grown. Certainly, the number of SCS technicians assigned to districts has not increased to the extent that they can keep up on an individual single-shot service basis with new requests for planning, and also give essential lay-out assistance on application and the help necessary on maintenance and improvement. Even in districts having only a few hundred cooperative agreements it is already obvious that greater efficiency in rendering service to cooperators must be achieved if obligations are to be fulfilled and conservation made permanent. Ways and means must be devised whereby supervisors and technicians can reach more people more rapidly with effective assistance through all of the necessary stages.

Planning time may be cut in half when natural groups function together.

So far, the greater part of the assistance has been on an individual basis. A farmer has made application to the district supervisors for assistance and technicians have been assigned to help out. What the district has to offer, what it expects of a cooperator, the advantage of conservation, land use capabilities, planning procedures and all the other steps involved are explained individually to the farmer—frequently involving the use of much of the technician's time over and above the time actually required in working on a plan. After the plan is completed, individual arrangements have to be made with the farmer to assist him in the various steps of application. Many farmers have completed application of their conservation plans but, in the rush of assisting new cooperators, contact with them on essential maintenance and improvement has been lost.

How, then, can conservation be speeded up and made more effective? More trained technical personnel is one obvious answer, emphasized by most boards of supervisors in their 1947 annual reports. More conservation equipment and materials of types new or uncommon to the district is another need stated by the governing bodies. Financing is mentioned by numerous boards. Certainly, these are recognized needs, but within themselves they do not solve the problem of getting conservation

on all the lands of all the farmers in the districts. Something else is required.

In every neighborhood or community there are groups of people who visit, enjoy recreation, and work together, bound by some tie such as relationship, religion, old-time customs, everyday needs, or just plain good-neighborliness. These common-interest groups vary in size from 4 to 5 families up to 15 or 20, or more. In each, there is a person whose counsel is generally sought and followed. An increasing number of governing bodies of districts are finding that it is a comparatively simple process to find the membership of these groups and locate their leaders. The next step is to sell the group leader on conservation, if he is not already sold. Once he is actively interested in conservation the group leader will interest his fellow members, call and act as chairman of planning and application meetings, request assistance for the group, route equipment, help in planning to meet seasonal needs, and in general move the program along.

Group action is not a new theory or even a new discovery. People who like to work together have been doing so from time immemorial. Certain human traits make certain people work together in groups most satisfactorily and most effectively. All that these progressive districts are doing is taking advantage of some known facts regarding human behavior and using them in the furtherance of conservation.

Group action is a natural projection of the soil conservation district philosophy. It calls upon and makes extensive use of local leadership. It brings out the initiative of the people themselves and it makes highest use of their instinct for helping each other to solve a common problem. Natural group leaders become right-hand men to district supervisors, not by official designation or title, but by unselfish work in assisting the district to reach more people rapidly and efficiently.

How much more efficient is group action, and how much time is saved by working with groups rather than with scattered individuals? That question cannot yet be answered with exactitude. Technicians now working with groups, however, say that by having an understanding of land capabilities and general techniques of planning and by being able to answer questions at planning meetings, the planning time required on farms of group members is reduced by one-fourth to one-third. In addition, there are economies of travel time. Groups vary in their speed of application of conservation, as do individuals, but it is strongly evident that the morale-building and somewhat competitive effect of group enterprise does markedly increase the rate and quality of application. In one work unit, farmers working in groups planted more winter cover crops in 1947 than in all the five preceding years when they had been assisted as individuals. They also constructed more miles of terraces than had been planned for that year, thus reducing the backlog of work planned but not done. One group with 15 members held its first planning meeting in late May 1947 with 100 percent attendance. They called their second planning meeting in early June, with 14 members attending, one being ill. Thirteen made application to the soil conservation district for assistance and technicians worked with them in planning their farms. At the end of the first 6 months, 60 percent of their plans were applied, and by June 1948 the group averaged 90 percent completed application.

How to get the conservation program maintained after it has been applied on individual farms and ranches, and how to get it consistently improved, is a matter of concern to forward-looking district supervisors and their associates. Too often a sound conservation plan is applied; then, for one reason or another, failure to maintain it has resulted in loss of time and labor, and sometimes in actual damage to the land. Ten years of experience in districts indicates that governing bodies with their small assisting force of agency representatives will have to be continually on the alert for organizational efficiencies and newer and better methods if the district program is to be brought steadily and rapidly along to its fulfillment. Used skillfully, group action will go a long way toward solving the problem of increasing the number of farmers who can be assisted in planning by a technician, increasing speed and quality of application, making possible more efficient use of equipment, either contract or district owned, and then, in getting conservation maintained.

There are probably two major obstacles to the widespread use of group action in soil conservation districts. Both of them can be overcome. The first of these is that most agricultural workers are trained and accustomed to working with individuals. They know they can stay busy work-

(Continued on page 235)

Dairy barn and home of Warren Brockway, Milo, Maine.

BROCKWAY LAYS A GREEN CARPET

By JOHN P. JONES and JOHN W. HART

ENTERING the New England Green Pasture Contest in the spring of 1948, Warren Brockway, Milo, Maine, rated seventh among about 1,900 who entered from New England. This achievement was not accomplished in a single season. Competition was keen. Only excellent pastures attained rank in the top 10. Warren has been working to develop and improve his pastures for several years. Management, fertilization practices, and selection of pasture species are factors in development of a productive pasture. The contest judges, all competent agronomists, rewarded Brockway for his progress in solving pasture problems. The same vigor, initiative, and good judgment that produced his successful pasture program are manifest in his other activities.

The town of Milo would not seem the same without Warren. For many years he has served on the board of selectmen and assessors. This is the body to which the town manager is responsible and which assesses the taxes. His judgment on public business is of the same high caliber as that exercised in his own affairs. For years he has expressed the desire to retire from town office, but each year nomination petitions in his behalf are circulated by interested taxpayers and he is reelected. For several years he has been a member of the executive committee of the Farm Bureau, this being his second year as president.

Warren served in France during World War I and has continued to be active in affairs of the American Legion.

This ability in public affairs and his interest in conservation as evidenced by the management of his own farm probably explain why Warren Brockway was elected supervisor to help direct the activities of the Piscataquis County Soil Conservation District. As a supervisor, he has definitely lived up to his reputation for sound thinking and wise counsel. He rarely misses a meeting or conference, and he always takes an active part.

Warren's farm is ideally adapted to livestock. A brook runs diagonally across, being fed by springs and seepage from the woodland. The surface is gently rolling. Part of it is deep and well drained, but because of the slope is Class II land. Aside from a few scattered areas of Class III land because of slope, the remainder is imperfectly drained and Class IV.

Before organization of a soil conservation district in 1944, Warren had worked out a plan of conservation farming in cooperation with the farm forestry program. A dairy farmer, he learned early that success depends (1) on having a large enough herd to give a large volume of business, and (2) on high quality forage. Of his 250 acres, 112 are devoted to hay and pasture and the balance is woodland. Warren farms to avoid using the plow and plans to break up his land only when it is necessary for reseeding.

Some of Brockway's land which has been seeded for 8 years is still highly productive, with no disappearance of the desirable species. His herd now consists of 52 milking cows and 25 young animals, and he produces abundant hay and pasture on the 112 acres to provide the roughage requirements. Raising no grain, this farmer recognizes the importance of making the best use of

NOTE.—The authors are chief, regional agronomy division, Soil Conservation Service, Upper Darby, Pa., and district conservationist, Soil Conservation Service, Dover-Foxcroft, Maine.

pastures. The high quality of the hay and pasture is indicated by the fact that he can maintain a high level of milk flow by feeding a 16-percent dairy ration at the rate of 1 pound per 4½ pounds of milk in the winter and 1 pound per 10 pounds of milk in the summer.

Hay and pasture are not considered separately but managed according to the needs of the particular season. Ladino clover at the rate of 1½ pounds per acre, and timothy at the rate of 7 pounds per acre, compose the seed mixture used. Warren likes this mixture because it can be used equally well for hay or pasture. He thinks in terms of grassland farming. Recently he became interested in using smooth bromegrass with ladino clover. A given field may be cut for hay, or used to fill the silo, or employed as pasture. He also has a barn drier. This is used in connection with the silo, making it possible to take the gamble out of harvesting high quality hay. If the weather is favorable, he will use conventional methods of harvesting; if rain threatens, he will use the barn drier; but when the weather is damp, he fills the silo.

Warren is a firm believer in not grazing closely. While he rotates the grazing, he does not have small fields where the herd is likely to graze closely or tramp the pasture into the ground. The pastures are mowed as needed, and frequently the aftermath from grazing is made into hay or silage.

Warren makes no special effort to spread droppings. His experience shows that when the cows are on good pasture they spread their own droppings well. This, together with such spreading as is accomplished by mowing, keeps the pasture free from any of the bunches of uneaten herbage such as often accumulate in pastures not well managed.

As a conservationist, Warren knows that if land is expected to produce it must be properly treated. He uses the same high standards in treating his land as he does in feeding his cows.

Superphosphate is used in the gutters at the rate of 2 pounds per cow each day. The manure is stored in a concrete pit which is large enough to hold a year's accumulation and to allow for operation of a tractor manure loader. In the fall just before the ground freezes, and preferably while it is raining, the manure is spread on the grassland at the rate of 10 tons per acre. After the manure has been spread, the remainder of the fields are top dressed with an application of 8–16–16 fertilizer at the rate of 500 to 700 pounds per acre.

The next season, manure spreading starts where it stopped the year before. As a result all the fields are top-dressed annually either with phosphated manure or a complete fertilizer. One ton of lime per acre is applied every 3 to 5 years.

In addition to his grassland program, Warren practices good management in his woodland. He has set out spruce and sugar-maple seedlings and is also taking steps to prevent the Pleasant River from cutting away more land.

Two years ago he purchased a nearby farm which had been idle 15 years. It was well covered with weed species or bushes. A conservation plan has been prepared for the new farm, and on those fields where the recommended practices have been applied he is getting production which compares very favorably with that of his home farm.

There are several sinkholes where the hardpan is near the surface. Some of these have already been filled by leveling operations, thus removing the obstruction to farm operation and increasing production. Diversion ditches have been built where necessary to prevent seepage from the woods into adjoining fields. As other trouble spots on wet areas are recognized, appropriate action is taken to correct them.

WORKING TOGETHER

By HUGH BENNETT

A GLITTERING array of model farms; conservation posters, essays, and scrapbooks; and drawings of other conservation items in a little country fair exhibit hall brought home again late last summer the fact that the real story behind great State and National feats is to be found in the individual communities of the Nation.

This happened at Parker, S. Dak., where I was privileged to present awards to rural schools in Turner County for accomplishments in the Young Citizens' League Conservation Education Project. Supervisors of the Turner County Soil Conservation District had contributed cash awards for the best scrapbooks, essays, posters, and projects on

conservation, and a plaque for the school with the best project. Although small-grain harvest was in full swing, the exhibit hall was filled to capacity—with farmers, merchants, school teachers, school children, and others.

Actually, the conservation project was a State-wide affair for the 1947–48 school year, voted by the delegates to the League's annual convention. It received much publicity as an activity in which some 30,000 pupils in 3,600 rural schools participated. It won for the League the "Certificate of Exceptional Merit" from the National Association of Conservation Education and Publicity.

But it took a view of this single part of the project at Parker to make one fully understand just how important this conservation education project is. I know I was not at all prepared, when we rather casually gathered in the exhibition building, for what I saw and heard: There were two tables covered with models of conservation farms and soil profiles, two racks filled with thick conservation scrapbooks, and the greater part of two walls of the building covered with conservation posters and conservation essays.

The hundreds of exhibits were well worth looking over closely in order to appreciate the understanding the teachers and the children had gained of conservation practices and results. It was evident that a great deal of study and work had gone into the undertaking, locally. All that we saw was the product of but one of South Dakota's 69 counties, and only two of the Turner County items went to the State event as part of the exhibit from its "circuit" of 11 counties.

Hugh Bennett presents plaque to Miss Laurene Hofer, teacher of District 32 school.

Part of exhibit by rural schools of Turner County.

There was ample evidence of the ingenuity used in planning the scrapbooks, in building the model farms, and choosing subjects for the essays. And the products of each school were the results of small communities working together. Thus, the young people of these localities were accomplishing something they wanted to do in the way they wanted to do it. They had voted for this type of project through their delegates at the annual meeting and were carrying on according to their own ideas.

It occurred to me that while this exhibit was part of what perhaps was the biggest conservation education effort ever undertaken in the county, it was also a symbol of something still larger. Miss Laurene Hofer, in fact, was representing all of South Dakota's school teachers when she accepted the plaque for District 32 school. And Roland Ortman, a pupil in that school, was speaking for all of the State's school children when he spoke as master of ceremonies.

But they were speaking, also, for the teachers and pupils of the whole Nation; they had moved ahead in their conservation work according to the typical American way, through education and communities working together toward a common goal. Working together, their efforts resulted in a State-wide conservation education program that won national recognition. Working together in this manner, this great country of ours can be kept permanently great by taking the best possible care of its basic asset—indispensable, productive land.

Water IN GROUND—Corn IN CRIB

Diagrammatic comparison of corn yields (derived from actual 1948 photographs and data) on three natural watersheds of 4 acres each, under different land-use practices. Left to right—straight rows, contoured rows, and contoured rows plus subtillage.

By JOHN A. ALLIS

NINE DOLLARS per acre adds up to a lot of money. It also adds up to what the water, lost in 1948 by up-and-down-hill farming on sloping, fairly heavy land, would have been worth to farmers, figured at present prices for corn.

Evidence of this value is found in the harvest at the Soil Conservation Service experiment station near Hastings, Nebr., where small watersheds are farmed in different ways in order to measure the influence of conservation farming on controlling floods in small tributaries.

The experiment station is on the Matie Eigenberg and Fred Lampman farms, 22 miles south of Hastings. The small watersheds are all similar, and the same crop rotation has been used on all of them during the last decade. Seven of the watersheds were in corn this year.

While all yields were larger this year than last, conservation farming topped up-and-own-hill farming by just about the same margin—about 5½ to 6½ bushels of corn per acre. The money difference was less this year because corn prices were lower.

Twenty-three bushels of corn per acre was the yield on the watersheds farmed up-and-down-hill, with a 3-year crop rotation of corn, oats, and wheat.

On the watersheds where contour farming was added to the crop rotation to conserve water, however, the yield was 28.7 bushels per acre—5.7 bushels per acre more than on the straight-row watersheds.

And on the watersheds where both surface tillage and contour farming are practiced for all crops in the rotation, the yield was 29.7 bushels per acre—6.7 bushels more than on the straight-row watersheds.

Yields in 1947 on the watersheds that were in corn were 14.4 bushels per acre under up-and-down-hill operations, 20.9 bushels per acre on the contour-farmed watersheds, and 20.7 bushels per acre where both contour farming and stubble-mulch tillage were used. These watersheds were in wheat this year.

Most of the water saved by conservation farming, and worth about $9 per acre to farmers in 1948, came during the heavy rains. For example, take two that fell during the summer. One of the rains fell July 9, totaling 1.71 inches. It came during a period of 6 hours, but not steadily. The first half inch fell during the first 15 or 20 minutes, then there was a period of an hour when little fell. The second half inch followed the slack period, and also in 15 or 20 minutes. The last 0.7 inch came in the next 4 hours.

Even with its "made to order" character—that is, a good shower and then a slack period to let the first rainfall soak into the ground—the corn farmed up-and-down-hill lost 0.4 inch, or nearly a fourth in runoff. This left 1.33 inches of rainfall to soak into the soil. But on the contoured and subsurface-tilled watersheds, less than 0.15 inch of rainfall ran off, leaving nearly 1.6 inches of water to go into the ground.

The other storm—on July 18—dumped 0.93 inch of rain in 16 minutes. It reached a rate of 6 inches per hour for a 5-minute period. The peak runoff rate—that is, the flow when runoff is at the highest during the period—was about 3.3 inches per hour from the watersheds farmed up-and-down-hill, but only about one-half this high on the contour-farmed watersheds and one-third as high on the subsurface-tilled watersheds.

NOTE.—The author is project supervisor, Soil Conservation Service, Hastings, Nebr.

Not only were the peak rates of runoff from this storm significant, but the total runoff was equally impressive. Two-thirds of the rain that fell on the up-and-down-hill watersheds was lost by runoff, while less than a third of the rainfall was lost by the contoured and subsurface-tilled watersheds.

The summer of 1948 was typical of central Great Plains weather. A period marked by hard rains was followed by drought, with hot winds, in August. During the wet period in June and July, when over 4 inches of rain fell each month, the subsurface-tilled watersheds lost less than half as much and the contoured corn lost less than a third as much water by runoff as the corn farmed up-and-down-hill. The subsurface-tilled corn had the added advantage of reducing surface evaporation. The saving, or storing, of this water during the wet spell was reflected in the crop yield.

These runoff rates have another meaning to people along streams, in addition to the value of the water saved, in terms of crop yields. They indicate that while there may be runoff from all of the watersheds, it will be somewhat less and much slower from all the land where stubble-mulch tillage is practiced than on watersheds that are farmed up-and-down-hill. This, in turn, reduces the likelihood of floods in the small tributaries, because the flow of runoff is spread over a longer period instead of being dumped in large volume into the streams with a rush.

GROUP ACTION IN DISTRICTS

(Continued from page 230)

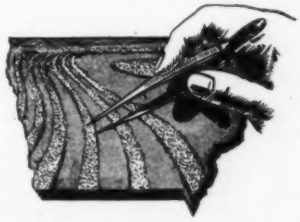
ing in this manner. Quite understandably, they hesitate to discard old methods in favor of new ones. It's hard to change habits!

A second obstacle is that the well-developed techniques of working with individuals must be modified and some new ones developed in work with groups. Although no two groups are exactly alike, it is not difficult to map their membership and locate their leaders. Unless the leader is already sold on conservation, getting him interested to the point of moving ahead with his group involves some principles which are different from the individual approach. Some leaders are ready to call meetings of groups immediately; others may wait weeks, or through an entire work season, before calling a meeting. But whatever the situation, a basic principle of group action is working with and through the leader. If this point is not observed no advantage is gained over single-shot methods.

Unless a man will work for the welfare of his group he is not the true leader. The truth of this observation is demonstrated as leaders call and act as chairmen of planning and application meetings, counsel with their group members, request district assistance when needed, route equipment, and otherwise coordinate activity. Although these men work effectively and unselfishly, it will be noted they do not seek public notice, and many do not even wish to be called "leader."

Experience has proved that group action is practical, and at least part of the solution of the problem of attaining permanence of conservation on the land.

UPPER MISSISSIPPI



TO DISSECT LAND PROBLEMS.—A land economics institute has been scheduled at Iowa State College, June 13 to July 20.

Designed to aid in a better understanding of the major land problems of the Nation and to point a way toward their solution, the course is open to educational and research workers, administrators of land programs, students working toward advanced degrees, and others.

Subject matter includes soil surveys and classification, conservation of land resources, forest land problems and policies, recreational and urban land use problems, livestock and land use, special problems in soil and water conservation, world resources and industries, economics of agricultural policy, economics of Government resource use programs, population problems and policies, advanced land economics, land valuations and appraisal, and production economics.

A special seminar in land problems and policies will include lectures and discussions by outstanding authorities from different sections of the Nation.

A folder describing the institute may be obtained by writing the Department of Economics and Sociology, Iowa State College, Ames, Iowa.

NORTHEAST

THAT'S A LOT OF TREES.—A million trees will be planted this spring on Allegany County, N. Y., farms cooperating with the Allegany Soil Conservation District. Reforestation is being established on more than 400 farms under complete conservation plans, and 100 more farms will be added to the list before next summer.

BETTER FARM, BETTER ROAD.—When the township highway department in 1 year moved 50 truckloads of soil from a road adjacent to his upper Pennsgrove farm, near Salem, N. J., R. L. Heritage decided it was time to do something about it. When he looked into the source of this soil he found that it was in his own farm lands. Discovery that some of his fields were only half as big as they were 20 years ago was a terrific shock. Of course, they still contained 160 square rods, but to a third dimension—depth—something had happened. In 20 years the 10 inches of topsoil had shrunk to 4 or 5 inches. Technicians working in the South Jersey District recommended a complete farm conservation plan with first emphasis on contouring. Heritage installed these practices. Highway crews have no more soil to haul from the roadway along his farm.

POND CUTS PREMIUMS.—When it is constructed within effective range of farm buildings, a pond can bring a reduction in fire insurance premiums. Walter Klammer, Jr., conservation farmer near Passaic, N. J., solved a tough problem that way. He has about $50,000 worth of wooden buildings on his farm. When the insurance expiration date approached, the company notified Klammer it would not renew the policy "because the risk is too great."

Klammer took his problem to the Northeast Jersey Soil Conservation District and got quick action from the directors. SCS technicians working with the district made surveys, designed a 1-acre pond that would eliminate a swamp, and supervised the pond's construction 500 feet from the buildings. In addition to fire protection, the pond will provide fishing and swimming. The first insurance company has renewed the policy and cut the premium more than 20 percent.

SOUTHEAST

NEIGHBORHOOD FIELD DAY.—Approximately 300 farmers and others gathered recently in the Hartsfield community of Colquitt County, Ga., to watch a community at work applying a soil and water conservation plan on the farm of Curtis Gay. Seventeen farmers gave a full day of their work and 14 furnished tractors and equipment. An oil-company agent donated the tractor fuel and a farm-supply company furnished 6 tons of limestone for a pasture area. Gay furnished seed and fertilizer for plantings. The work included terracing 10 acres, plowing, harrowing, fertilizing, and seeding sericea lespedeza on three meadow outlets, sprigging coastal Bermuda on about 3 acres, planting Dallis grass on 2 acres, and overseeding Kobe lespedeza on the Bermuda and Dallis grass. Five acres of pasture were fertilized, posts were placed for relocation of a fence, and a partially constructed earthen dam was completed, and brush and trees were removed to provide a farm pond. The event, which was more like an old-fashioned logrolling than a big farm "face lifting," was the result of a suggestion made at the annual meeting of the Georgia Association of Soil Conservation District Supervisors by Kent Leavitt, president of the National Association. Howard E. McCravy, a supervisor of the Middle South Georgia District discussed Leavitt's suggestion for demonstrations on a community basis with Jack Faison, deputy supervisor and president of the Hartsfield chapter of the Farm Bureau. The field day, held under the joint sponsorship of the Hartsfield chapter of the Georgia Farm Bureau and the supervisors of the Middle South Georgia Soil Conservation District—the first of a series of planned neighborhood conservation field days—was the result.

C. W. CHAPMAN.

POKEWEED POSSIBILITIES.—At last the lowly pokeweed may win a more elevated place on the southern farm than that of supplying "wild salat" as a spring tonic for the winter-worn.

Verne E. Davison, southeastern regional biologist, SCS, believes that pokeberry can be used to advantage in conservation farming. And with that in mind, Davison is closely watching trial plantings at the SCS Nursery, Brooksville, Fla. Additional tests are being established in South Carolina and Georgia. Nursery workers have successfully produced crowns from seed.

Davison thinks that trial plantings may show how the pokeweed can be handled best in conservation farm patterns to provide a supply of the juicy berries and seeds for doves, quail, and other birds during late summer and all winter months.

J. A. Johnson scrutinizes pokeweed growing wild on strip mine spoil bank in Smith County, Miss., where mined lands are being converted to a haven for wildlife.

NO GRAIN FEEDING.—E. T. Layton, of the Simpson County Soil Conservation District, Miss., recently sold six calves at auction for $920 that had never been fed any grain. The calves were about 6 months old and ranged in weight from 450 and 550 pounds. They sold for from 30 to 35 cents a pound on the hoof. Layton has his pasture so arranged that he gets year-around grazing. The calves grazed oats, wild winter peas, and white clover, and finished on kudzu.

TEN-YEAR-OLD PINES.—Many people wonder why the Webb brothers of Perry County, Ala., were working in 1939 to establish large areas of badly eroded land in pine trees, supervisors of the Black Belt Soil Conservation District report. Today, the trees are large enough for telephone poles and pulpwood. There are 35,000 acres of land in the district which need to be planted to trees, and there is a backlog of orders for seedlings with the State nursery, which they are unable to furnish.

VIDEO SHOW.—About 20 enlarged photographs were used on a recent television broadcast over WMCT, Memphis, Tenn., to explain the work of the local soil conservation district. Taking part in the program with Walter Durham of the WMCT staff were C. E. Ishee, SCS technician, and County Agent L. J. Kerr. Ishee used black-and-white pictures to explain the planning and application of practices, giving the name of the local farmer in each case. Kerr told of the organization of the Shelby District and Durham emphasized the importance of soil conservation to the entire community.

On the air: County Agent Kerr, WMCT's Durham, and SCS's Ishee.

AN UNUSUAL LEASE.—A landlord and tenant in the Shenandoah Soil Conservation District, Va., who happen also to be father and son, are operating under a lease agreement which incorporates their soil conservation plan as the farm management part of the lease. Another unusual feature of the case is that the farm is said to be the old homestead of Abraham Lincoln's father, located about 10 miles north of Harrisonburg, Va.

PAY DAY EVERY MONTH.—Earl Hemphill, of the Simpson County Soil Conservation District, Miss., reports that he has been practicing conservation farming for only 2 years, but that he is making more money, is improving his land, and is enjoying a better standard of living as a result. "I now have a pay day each month instead of once a year," he adds.

$10,000 OVERNIGHT GAIN.—J. D. Scaggs, of the La-Rue County Soil Conservation District, Ky., says that he has turned down $10,000 more than he paid for his farm since a "face lifting" demonstration held there last October. "You can't realize how proud I was of those terraces after an awfully heavy rain fell on November 5. I couldn't wait until the rain was over to see what was taking place, so I just took off in the downpour and walked all over the farm. I couldn't find any damage at all on the slopes between the terraces. Every one of the terraces was running full and taking the water around the hill to the outlets. I'm sure the farm would have been nearly ruined without the terraces and outlets."

POWER OF PRESS.—A regular weekly news column by J. D. P. Thompson, work unit conservationist in the Northwest Alabama District, relating experiences of local conservation farmers, brought the following message on a postal card, signed by Miss Lena Roberts:

"Your notes on soil conservation have interested us; hence, my father and I would be pleased to have you stop at our home and discuss with us some of the things which we might do to help save the acres we own.

"We live just outside the city limit, north of Cox's Creek on the old Jackson Road. If going north, ours is the second house on the east side of the road. This favor will be appreciated."

SOUTHWEST

PRESCRIPTIONS FOR LAND.—Soil conservationists have to use various methods to explain a complete conservation program to farmers. Two agreements were recently signed without hesitancy by two Spanish-American farmers, when the comparison was made between a medical prescription for a patient and a prescription for the land.

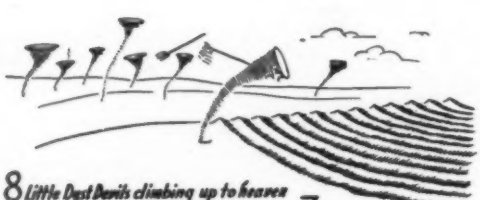
When the word prescription was first mentioned, the farmers looked as if they were confused in mind, but as the discussion progressed the sparkle began to reappear in their eyes. These farmers had gotten prescriptions filled for some of their family, and it was brought out that the doctor always gave oral instructions with the definite instructions on the bottle. The same is true of a land prescription; a lot of oral instruction is given along with the prescription. Too, the medical doctor makes periodic checks on the patient; the same should be done by conservationists to see if the sick land is improving.

JODY F. BOSTON.

10 LITTLE DUST DEVILS

10 Little Dust Devils in a straight line
They came to a Windbreak-Then there were 9

9 Little Dust Devils acting big and great
Along came a Strip Crop field-Then there were 8



8 Little Dust Devils climbing up to heaven
They came to a Listed Field-Then there were 7

7 Little Dust Devils playing lots of tricks
Along came a Clover Field-Then there were 6

6 Little Dust Devils acting much alive
Came to a Grass Waterway-Then there were 5

5 Little Dust Devils playing as before
They ran into a Fishpond-Then there were 4

4 Little Dust Devils on a big spree -
Came to a Stubble Mulch-Then there were 3

3 Little Dust Devils wondering what to do
Ran into a Cover Crop-Then there were 2

2 Little Dust Devils - now they're all alone
Along came a Woodlot - Then there was 1

1 Little Dust Devil not having fun --
Ran into a Wildlife Planting-Then there was none 0

by Kenneth C. Carter & Charles J. Koch
SOIL CONSERVATION SERVICE, ALBUQUERQUE, N.M.

COLORADO CONTEST.—The *Denver Post* and radio station KLZ (Denver) announce their second annual soil conservation recognition contest, in which Colorado soil conservation districts and individual farmers and ranchers will compete.

Cash awards of $500 will go to each of the five districts scoring the greatest number of points based upon application of soil and water conservation practices. Fifty percent of the scoring will be based upon work done by three farmers or ranchers, while the other 50 percent will be based upon work in the district as a whole. Each winning district also will receive a plaque inscribed with the names of the district officers and the three farmers or ranchers chosen to represent the district in the contest. Each farmer or rancher representing a winning district will receive a framed scroll.

Rules provide that nominations must be in by July 10. Regional judging on a watershed basis will be made between July 10 and August 31. State judging will be held between September 1 and October 1. Award banquets for winning districts will be held between October 1 and November 15.

Entries in the contest must be sent either to Lowell Watts, KLZ farm reporter, or Ralph Partridge, farm editor of the *Denver Post*.

LABOR ECONOMY.—Concrete irrigation ditch-lining on the 625-acre farm operated by James Francis and Ira Moore in the New River Soil Conservation District, 7 miles north of Glendale, Ariz., has reduced labor costs by two-thirds, is saving from 20 to 25 percent on water, and will pay for itself in a little more than 14 months, these farmers declare.

Francis and Moore long had realized that they were losing too much water and that labor costs were high. Believing that concrete lining, along with other improved irrigation practices, might solve their problem, the farmer-partners entered into an agreement with the supervisors of the New River District in 1947. The work was started immediately and completed early in 1948. The 11,831 linear feet cost $9,231.61, or 76 cents per foot including the necessary structures.

Since one well usually is used to irrigate a quarter section of 160 acres in this area, Francis has figured costs on this basis. One man now can irrigate 160 acres in 24 hours, whereas before the ditches were lined, three men were needed to do the job in the same period. This means an actual labor-saving of $1,680 for each 160-acre tract. The cost of lining a half mile of ditch, which serves 160 acres, was $2,006.40. Therefore, Francis figures that the $1,680 labor-saving during a single irrigation season was only $326.40 less than the cost of construction on each 160-acre tract.

OVERNIGHT STORAGE TANKS.—Soil and water conservation work started in 1946 on the Otra Banda ditch in the Pojoaque Soil Conservation District, Santa Fe County, N. Mex., has increased crop production 30 percent on 200 acres and decreased maintenance costs 50 percent, according to Cresenciano Roybal, ditch commission and lifelong resident.

Prior to 1945 landowners on the ditch had no dependable water supply. Arroyo damage, silting, seeping of water, and other erosion resulted in high annual maintenance cost. Often the ditch would break when water was most needed and labor for repairs had to be taken from regular farm work. During such shortages water for young fruit trees had to be hauled in barrels. Under such conditions crop production was considerably below capacity.

In 1945, the ditch commissioners, Noberto, Demetrio, and Cresenciano Roybal, called on L. K. Sandoval, of SCS, for assistance in carrying out a soil and water conservation program. A complete plan was agreed upon between the ditch commissioners and the Pojoaque District supervisors.

In carrying out the conservation plan, 1,150 feet of 8- and 12-inch perforated metal pipe, 1,350 feet of clay tile, and 60 feet of 21-inch tile under an arroyo crossing were installed. Other improvements included the laying of 200 feet of flume through a very sandy area, construction of a 100-foot metal siphon across an arroyo, and the straightening of 2,600 feet of ditch with the width and depth being made more uniform. Three collection boxes, and 11 small overnight storage tanks with proper turnouts also were constructed.

These improvements resulted in the waterflow available to the irrigation ditch being doubled. This was determined by actual measurement of the spring water flow from the Pojoaque River.

"The water supply now is adequate to take care of our gardens and orchards and for limited production of other crops," Roybal said. "Our gardens and orchards do not suffer from lack of water during critical growing periods. Installation of overnight storage tanks has decreased the need for night irrigation and has made it possible for the women and children to do most of the irrigating. The men now can devote full time to regular farming operations since the need for ditch repairs has been practically eliminated and maintenance has been reduced to a minimum. Group participation in this project also has caused individuals to do more soil and water conservation work on their farms.

"Maximum results have been obtained," Roybal says. "For example, prior to 1946, the crops from my 3-acre garden brought me less than $200 annually, but last year the production was more than doubled and was worth around $1,000."

PACIFIC

NORTHWESTERN FRONTIER.—The public schools of Pullman and Colfax, Wash., in the heart of the famed Palouse section, are calling on soil conservation district supervisors and local farmers in search of better ways of teaching soil conservation in the elementary grades.

Superintendent Louis Bruno, of Pullman, started the idea when he brought together more than 100 farmers, their wives, teachers, district supervisors, businessmen, and professional soil conservationists and told them he wanted "grass roots" advice on how to get soil conservation across to youngsters in grades from 1 to 12. A similar meeting was held at nearby Colfax a few days later.

Out of the meetings came many concrete proposals. Definite plans were made to incorporate soil conservation in such courses as science, reading, English composition, geography, and others at all levels of instruction.

A later series of meetings was held with faculty members and SCS technicians to work out detailed teaching methods. Paul C. McGrew, State conservationist, is keeping an eye on developments. He describes the movement as "real pioneering in the field of soil conservation education."

WESTERN GULF

KEEPING UP.—Two banks in Antlers, Okla., have purchased subscriptions to SOIL CONSERVATION Magazine for 125 district cooperators and civic organizations. There is a growing demand all over the country for this periodical as a means of keeping cooperators and others loaded with the latest ideas, techniques, and news items in the field of soil and water conservation.

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DETROIT

Beautiful only in retrospect. The angry blizzards piled the snow high on highways and side roads, posing a tremendous challenge to manpower and machine power. The vast drifts had to be broken through before supplies could be carried to stranded man and beast. See "Operation Snow-bound," p. 219.

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